

Application No. 10/690,030
Amendment dated March 24, 2005
Reply to Office Action of August 11, 2004

REMARKS/ARGUMENTS

Responsive to the Official Action mailed November 24, 2004, applicants have amended the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, claims 7 and 10 have been canceled, and claims 8, 9, 11, 12, and 13 amended. Reconsideration is respectfully requested.

Applicants note that the Examiner has maintained his restriction requirement. Applicants respectfully reserve the right to file one or more divisional applications directed to their non-elected claims.

Applicants have revised their specification to refer to their priority provisional application, as set forth in their Application Data Sheet.

Applicants submit herewith a revised Figure 1 in accordance with the Examiner's requirement. This sheet has been labeled as "Replacement Drawing". Entry is respectfully requested.

Applicants apologize for the typographical error in their Information Disclosure Statement, and appreciate the Examiner's notation of consideration of the intended citation, U.S. Patent No. 3,485,706, to Evans.

The Examiner has rejected the claims under 35 U.S.C. §112, referring to claim language specifying a maximum machine-direction and cross-direction shrinkage value for their novel filter media construct. This rejection is respectfully traversed. It is believed that it is well-known in this field of art that "shrinkage", if not otherwise

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contemplated, concerns "residual shrinkage", that is, shrinkage which a filter media may exhibit subsequent to any manufacturing steps, including heat-setting. Applicants include herewith a glossary of filtration media terms explaining this usage of the term.

The importance of this low shrinkage value should not be diminished. In use of filtration media, it is important that the filter media not exhibit excessive levels of shrinkage, since such shrinkage can undesirably exert excessive stress on an associated support structure, such as in a baghouse filter application. Thus, these specifically described levels of maximum shrinkage are an important aspect of applicants' filter media construct.

In rejecting the pending claims under 35 U.S.C. §103, the Examiner has relied upon U.S. Patent No. 5,290,628, to Lim et al., in view of U.S. Patent No. 4,270,933, to Meny et al. However, it is respectfully maintained that even when combined, these references fail to teach or suggest applicants' novel filter media construct, as claimed, and accordingly, the Examiner's rejection is respectfully traversed.

As specified in the amended claims, applicants' filter media construct comprises a hydroentangled structure of predominantly staple length fibers, and an electro-conductive scrim *in the form of a spunbond material*. As disclosed in the specification, the use of an electro-conductive scrim in the form of a spunbond material desirably acts to provide a relatively reduced level of static decay time, a reduction of as much as 15% when compared with non-conductive constructs. This is a highly desirable feature of

the present invention, which the Examiner has acknowledged is not disclosed in the principal Lim et al. patent.

Additionally, applicants must respectfully disagree with the Examiner's extrapolation of the test data set forth in the Lim et al. patent. The Examiner has acknowledged that this reference "does not teach the Mullen burst strength of the filter media having a basis weight of 4.19 ounces per square yard". In fact, this reference teaches that the referenced sample of filter material (sample A) exhibits a Mullen burst value *less than half* than the value set forth in applicant's claims.

This acknowledged deficiency in the teachings of the principal Lim et al. reference is believed to be a result of the components from which this reference contemplates filter formation. As specifically disclosed, this reference is limited in its teachings to the use of *an unbonded flash spun web* which is hydroentangled with staple length fibers. As will be recognized by those skilled in the art, a *bonded* flash spun web (such a Tyvek) may exhibit significant strength, but an *unbonded* flash spun web is not believed to exhibit comparable strength characteristics.

Thus, applicants must respectfully disagree that one can merely extrapolate the test data of Lim et al., which as noted teaches a Mullen burst strength *far below* applicants' claimed value, and which, as acknowledged by the Examiner, is "silent as to machine-direction and cross-direction shrinkage and tensile strengths". It is respectfully maintained that applicants' novel use of an electro-conductive scrim in the form of a

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spunbond material provides desirably high levels of strength and Mullen burst values, desirably low shrinkage values, and reduced static decay time. Clearly, all of these highly desirable properties cannot be reasonably extrapolated from the teachings of Lim et al., which fail in a number of respects to teach or suggest applicant's claimed filter media construct.

Applicants make note of the Examiner's reliance upon the secondary Meny et al. reference, but it is respectfully maintained that this reference fails to overcome the clear deficiencies in the teachings of the principal Lim et al. patent. From applicants' study of this reference, it is not believed that this reference contemplates formation of a laminate filter media construct comprising predominate staple length fibers, and an electro-conductive scrim in the form of spunbond material, with the resultant material exhibiting desirably high levels of Mullen burst strength, and machine-direction and cross-direction tensile strength as well as desirably low levels of machine-direction and cross-direction shrinkage, all in a filter media having a maximum specified basis weight, for economic fabrication and use. Thus, even if the teachings of the principal Lim et al. patent are modified in accordance with the secondary Meny et al. reference, the combined teachings of these references clearly fail to teach or suggest applicants' novel filter media structure, as set forth in the amended claims.

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In view of the foregoing, formal allowance of claims 8, 9, and 11-13 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fees which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage at First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **March 24, 2005**.

